REMARKS

Reconsideration of the application in view of the amendments to the claims and remarks following is respectfully requested.

Claims 23 - 56 are before the examiner. Claims 23, 29, 31, 32, 37, 39, 40, 41, 45, 46, 47 and 48 have been amended. Claims 27-28 have been cancelled. New claims 53 - 56 have been added.

The claims have been amended in order to be more precise under 35 U.S.C. 112. New claims 53-56 find support in the Specification and the claims as originally filed. Therefore, no new matter has been added to the claims.

35 U.S.C. § 112

Claims 23-52 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner objects to the limitation "the degree of fluoridation" and "the activity of the composition," in claims 1 and 2. It is respectfully submitted that neither original claims 1 nor 2 contain the language, "the activity of the composition." It is respectfully submitted that the language, "the degree of fluoridation" does not violate the rules on antecedent basis. Claim 1 states that the support is fluoridated and hence the support must comprise a degree of fluoridation. It is respectfully submitted that the ordinary practitioner in the art would readily recognize that "the degree of fluoridation" relates back to the fluoridated support. Withdrawal of the rejection is respectfully requested.

The Examiner objects to the use of the terms "composition" and "support" that were characterized as indiscriminately employed. In view of the amendments to the claims, it is

respectfully submitted that all the language directed to the support is now consistent. Withdrawal of the rejection is respectfully requested.

The Examiner has objected to the failure of employing proper Markush format. In view of the amendments to the claims, it is respectfully submitted that proper Markush format is employed. Withdrawal of the rejection is respectfully requested.

35 U.S.C. § 102(b)

Claims 23 - 52 have been rejected under 35 U.S.C. 102 (b) as being anticipated by Inatomi et al. (hereinafter "Inatomi"). Applicant respectfully disagrees.

In USSN 09/339,128, now US Patent No. 6,368,999 B1, the Examiner allowed the claims over Inatomi for the reasons that Inatomi did not disclose treating the fluorided support with a highly fluorinated tris-arylborane. Claim 23 as now amended states that the activator is a highly fluorinated tris-arylborane. In view of the amendment, it is respectfully submitted that Inatomi does not anticipate the claims. Withdrawal of the rejection is respectfully requested.

As for the new claims, it is respectfully submitted that the catalyst system disclosed and taught by Inatomi is a four component system comprising a metallocene, and ionizing ionic compound, an organometallic compound and an inorganic oxide. The disclosure requires both an organometallic compound and an ionizig ionic compound. New claims 53 - 56 are all directed toward a three component catalyst system (note the consisting essentially of language), namely a metallocene, an activator which can be one of (i) one or more alkylalumoxanes, (ii) one or more non-coordinating anions, (iii) one or more activator anion neutral precursors, or (iv) one or more highly fluorinated tris-arylboranes, and the fluorinated support. It is therefore submitted that claims 53 - 56 are not anticipated by Inatomi. It is further submitted that the claims are not obvious over Inatomi since to leave out a component taught by the prior art is a true measure of unobviousness.

35 U.S.C. § 102(e)

Claims 23 - 52 have been rejected under 35 U.S.C. 102 (e) as being anticipated by Fritze (hereinafter "Frtize"). Applicant respectfully disagrees. In USSN 09/885,809, now US Patent No. 6,524,988 B2, the Examiner allowed the claims over Fritze with respect to the amount of fluorine. Present claims 25, 26, 43 and 44 recite the amount of fluorine. It is therefore respectfully submitted that claims 25, 26, 43 and 44 should be allowable in the same sense as the claims in '988. Thus, it is respectfully submitted that all the present claims are not anticipated by Fritze.

Furthermore, Fritze does not specifically prepare a fluorinated support. Fritze is directed to modifying a support material by treating the support material with a organic silicon radicals. Such treatment to modify a support material with an organic silicon radical differs in kind from a modification of the support material by fluorination. In Fritze, Col. 12, line 26 carried over to Col. 14, line 24, many silicon reagents are listed. One of ordinary skill in the art would have to pick and choose from many examples of silicon reagents, and even if one picked a fluorinated silicon compound one would, in accordance with Fritze's teachings and directions, obtain a silicon modified support material, not a fluorinated support material. Furthermore, none of the illustrative silicon compounds listed in Fritze's Col. 13 correspond to the fluoridated silanes recited in the pending claims. It should also be noted that in the Fritze examples, there are no illustrations of a fluorinated support. In view of the absence of any disclosure of a fluorinated support, it is respectfully submitted that Fritze does not anticipate the claims. Withdrawal of the rejection is respectfully requested.

A terminal disclaimer is provided herewith.

In view of the above amendments and remarks, it is respectfully submitted that the claims in this application are now in condition for allowance. Prompt notice of allowance is respectfully solicited.

Respectfully submitted,

5/12/03
Date

Leandro Arechederra
Attorney for Applicants
Registration No. 52,457

ExxonMobil Chemical Co.
Law Technology
P.O. Box 2149
Baytown, Texas 77522-2149
Phone: 281-834-2173
Fax: 281-834-2495

APPENDIX A: CLAIMS MARKED-UP TO SHOW CHANGES

23. (Once amended) An olefin polymerization method comprising the steps of contacting a polymerizable olefin with a supported catalyst composition, said supported catalyst composition comprising one or more fluorided supports, [support compositions;] one or more metallocenes[;], and one or more activators[,] selected from highly fluorinated tris-arylboranes, characterized in that the degree of fluoridation of the support allows association between the fluorided support and one or more activators such that when contacted with one or more metallocenes and α-olefin monomers, the supported catalyst composition exhibits a productivity of from 919 to 6012 g polymer/g metallocene·hr.

29. (Once amended) The method of Claim 23, wherein the activator is selected from the group consisting of tris-perfluorophenyl borane, trisperfluoronaphthyl borane, trisperfluorobiphenyl borane, tris(3,5-di(trifluoromethyl)phenyl)borane, tris(di-t-butylmethylsilyl)perfluorophenylborane, and mixtures thereof.

31. (Once amended) The method of Claim 23, wherein the one or more metallocenes is selected from the group consisting of Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dimethyl; Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dimethyl;

Dimethylsilandiylbis (2-methyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-benzoindenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,6-diisopropylindenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-4-phenyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis (2-ethyl-4-naphthyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(1-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4-(2-naphthyl)-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-4,5-diisopropyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2,4,6-trimethyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-methyl-1-indenyl) zirconium dichloride; Dimethylsilandiylbis(2-ethyl-1-indenyl) zirconium dichloride, and Dimethylsilandiylbis(2,5,6-trimethyl-1-indenyl) zirconium dichloride, and mixtures thereof.

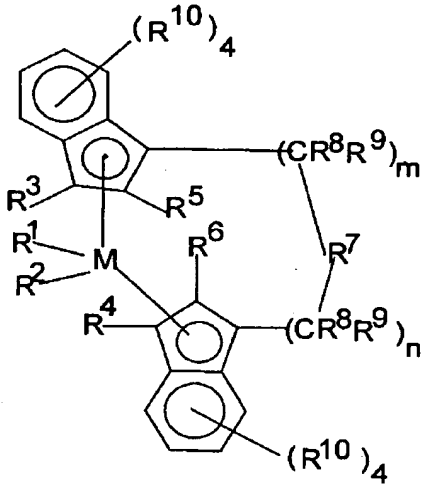
32. (Once amended) The method of Claim 23, wherein the fluorided support [composition] is selected from the group consisting of [following fluorided supports:] talc, clay, silica, alumina, magnesia, zirconia, iron oxides, boria, calcium oxide, zinc oxide, barium oxide thoria, aluminum phosphate gel, polyvinylchloride or substituted polystyrene, and mixtures thereof.

37. (Once amended) The method of Claim 23, wherein a support and a fluoriding agent are contacted with one another at from 200°C to 600°C to produce the fluorided support [composition].

39. (Once amended) An olefin polymerization method comprising the steps of contacting a polymerizable olefin with a supported catalyst composition comprising a fluorided support[composition;] and at least one highly fluorinated tris-arylborane bound to the fluorided support [composition].

40. (Once amended) The method of Claim 39, wherein the at least one highly fluorinated tris-arylborane is selected from the group consisting of tris-perfluorophenyl borane, trisperfluoronaphthyl borane, trisperfluorobiphenyl borane, tris(3,5-di(trifluoromethyl)phenyl)borane, tris(di-t-butylmethylsilyl)perfluorophenylborane, and mixtures thereof.

41. (Once amended) The method of Claim 39, wherein the support [also] comprises at least one metallocene represented by the following:



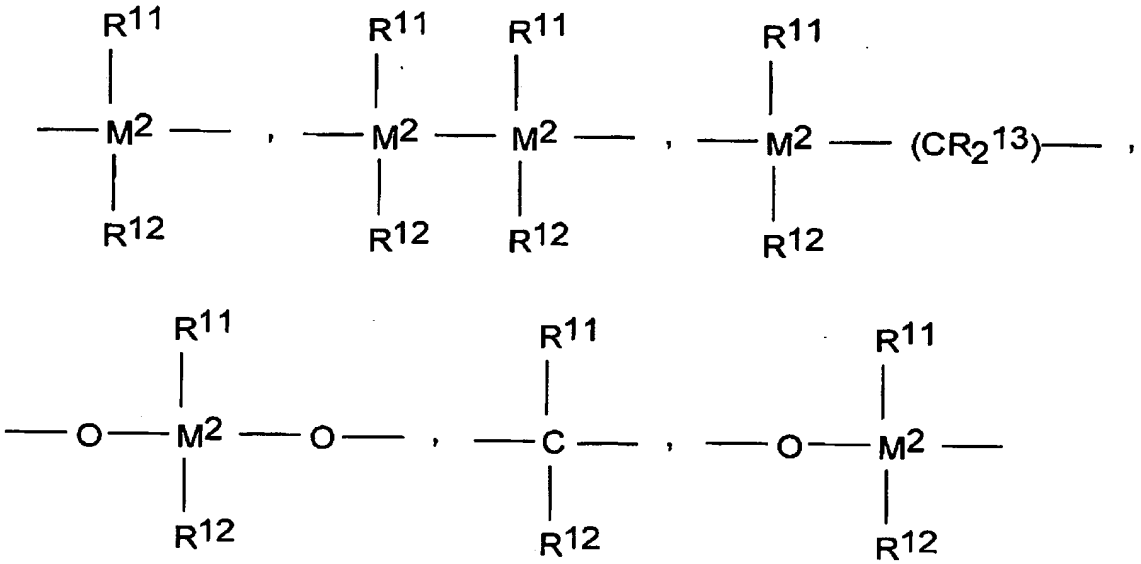
wherein M is titanium, zirconium, or halfnium;

R^1 and R^2 are identical or different, and are one of a hydrogen atom, a C_1-C_{10} alkyl group, a C_1-C_{10} alkoxy group, a C_6-C_{10} aryl group, a C_6-C_{10} aryloxy group, a C_2-C_{10} alkenyl group, a C_7-C_{40} arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, or a halogen atom;

R^5 and R^6 are identical or different, are one of a halogen atom, a C_1-C_{10} alkyl group, which may be halogenated, a C_6-C_{10} aryl group, which may be halogenated, a C_2-C_{10} alkenyl group, a C_7-C_{40} -arylalkyl group, a C_7-C_{40} alkylaryl group, a C_8-C_{40} arylalkenyl group, a $-NR_2^{15}$, $-SR^{15}$, $-OR^{15}$, $-OSiR_3^{15}$ or $-PR_2^{15}$

radical, wherein R^{15} is one of a halogen atom, a C_1-C_{10} alkyl group, or a C_6-C_{10} aryl group;

R^7 is



-B(R^{11})-, -Al(R^{11})-, -Ge-, -Sn-, -O-, -S-, -SO-, -SO_2-, -N(R^{11})-, -CO-, -P(R^{11})-, or -P(O)(R^{11})-;

wherein R^{11}, R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{20} alkyl group, a C_1-C_{20} fluoroalkyl group, a C_6-C_{30} aryl group, a C_6-C_{30} fluoroaryl group, a C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyl group, a C_7-C_{40} arylalkyl group, a C_8-C_{40} arylalkenyl group, or a C_7-C_{40} alkylaryl group; and wherein R^{11} and R^{12}, or R^{11} and R^{13}, together with the atoms binding them, can form ring systems;

M^2 is silicon, germanium or tin;

R^8 and R^9 are identical or different and have the meanings stated for R^{11};

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2; and

the radicals R^3, R^4, and R^{10} are identical or different and have the meanings stated for R^{11}, R^{12} and R^{13}.

45. (Once amended) The method of Claim 39, wherein the fluorided support [composition] is selected from the group consisting of fluorided talc, clay, silica, alumina, magnesia, zirconia, iron oxides, boria, calcium oxide, zinc oxide, barium oxide thoria, aluminum phosphate gel, polyvinylchloride or substituted polystyrene, and mixtures thereof.

46. (Once amended) The method of Claim 39, wherein the support and a fluoriding agent are contacted with one another at from 100°C to 1000°C to produce the fluorided support [composition].

47. (Once amended) The method of Claim 39, wherein a support and a fluoriding agent are contacted with one another at from 200°C to 600°C to produce the fluorided support [composition].

48. (Once amended) The method of Claim 47, wherein the fluoriding agent is selected from the group consisting of NH_4BF_4, $(NH_4)_2SiF_6$, NH_4PF_6, NH_4F, $(NH_4)_2TaF_7$, NH_4NbF_4, $(NH_4)_2GeF_6$, $(NH_4)_2SmF_6$, $(NH_4)_2TiF_6$, $(NH_4)_2ZrF_6$, MoF_6, ReF_6, GaF_3, SO_2ClF, F_2, SiF_4, SF_6, ClF_3, ClF_5, BrF_5, IF_7, NF_3, HF, BF_3, NHF_2 and NH_4HF_2 and mixtures thereof.